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A
BRIEF
BY THE
ONTARIO CHIROPRACTIC ASSOCIATION
TO THE
ROYAL COMMISSION
ON THE
WORKMEN'S COMPENSATION ACT OF ONTARIO

The Honourable George A. McGillivray,
Commissioner

August 8, 1966

Mr. Commissioner,

1. Our delegation is appearing before this Commission as representatives of the Ontario Chiropractic Association, the provincial division of the Canadian Chiropractic Association, representing 75% of the practising chiropractors in the Province. We feel that the recommendations presented in this brief are constructive in nature and, if adopted, will be of great assistance in improving the health care provided to injured workers under the Workmen's Compensation Act. If, after reviewing our submission, you find a need for additional information, you may be assured of our fullest co-operation.

ECONOMIC FACTORS IN BACK INJURY CASES

2. The increasing incidence of spinal injuries in our industrial environment is a matter of concern and has been studied recently by the Department of Research and Statistics of the American Chiropractic Association. Using information obtained from the Department of Health, Education and Welfare of the United States Government, the United States Department of Labour, the National Safety Council, and the National Referral Centre for Science and Technology, a comprehensive report has been prepared which we submit as Exhibit 1.
3. The report will speak for itself so there is no need for us to quote extensively from it in this submission; however, we would like to point out, and to emphasize, that according to the Department of Health, Education and Welfare, Public Health Service, during the two year period from July, 1959 to June, 1961, 35.5% of all back injuries took place while the victim was at work. Further, the impact upon the nation's economy is estimated by the National Safety Council to be four times the direct cost. Applying this figure to the United States, it is calculated that back injuries cost America one billion dollars annually. Applying it to the cost of back injuries reported by the Ontario

Workmen's Compensation Board in 1963, we find that the Province's economy was damaged to the extent of \$25,600,000.00. (6,416,943 x 4 - W.C.B. Annual Report, 1963, page 52.)

4. In 1963 the U.S. Department of Labour issued a report entitled "Federal Work Injury Facts". It analyzed the incidence of disabling, non-fatal, work injuries to civilian federal employees, by principal anatomical location, for the years from 1952 to 1961. The report demonstrated that while the over-all rate for all kinds of non-fatal disabling injuries had increased by 5%, the rate for back injuries (excluding disc cases) rose by a whopping 24%. We do not have a similar analysis for Ontario, but we do know from the report of the Ontario W.C.B. for 1963, that back and spine injuries in that year represented 19.0% of all cases and 20.3% of total costs.

TREATMENT PROBLEMS IN BACK INJURY CASES

5. The above figures serve to underline the important influence that spinal injury can exert upon the Province's economy, but they say nothing in regard to treatment methods. Very serious consideration should be given to the need for improving present methods of treatment for the purpose of returning the worker to his job as soon as possible and, at the same time, reducing time loss and production loss in industry.
6. An important step in this direction was taken by the Workmen's Compensation Board of Ontario a few years ago, when they conducted a study of low back pain in men receiving compensation. A report of this study was published in the July 9th, 1966, issue of the Canadian Medical Association Journal and is attached to this brief as Appendix I. Three short quotations from this report follow:



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7. "The findings in this study raise doubt concerning the efficacy of conservative medical treatment in general for patients in the common "problem low back" category, namely those in whom the diagnosis is herniated intervertebral disc or disc degeneration and strain, and who continue to be disabled longer than six weeks. Perhaps it would be wiser, in cases where there is no definite indication for surgical intervention, to recognize the inadequacy of our present methods of treatment and to search for a completely new approach."
8. "The efficacy of conservative medical treatment in these cases, as commonly carried on with the help of physical therapy, is questioned. "The need for study, to improve or create new methods of management for these cases, is emphasized."
9. "The failure of treatment in six of each ten cases indicates that present-day methods of management of such patients are unsatisfactory."
10. It is significant to note that the chiropractic management of back injury cases was not included in this study. While we were disturbed by this at the time, in retrospect we should perhaps concede that it was probably just as well to limit the first study to methods used at the Compensation Board Rehabilitation Centre.

EFFECTIVENESS OF CHIROPRACTIC CARE

11. Chiropractic care of sprain and strain injuries to the spinal column was the subject of a study conducted in Florida in 1956. First Research Corporation, a nationally recognized and independent research organization, microfilmed the records of 19,666 cases from the files of the Florida Industrial Commission. The report on this study is presented as Exhibit 2.

12. Sprain or strain injuries of this type are most commonly caused by trauma resulting from lifting, pushing, pulling or wielding of objects. The State of Tennessee reports that 75.7% of back injuries are caused in this manner. This view is supported in the study carried out for the Workmen's Compensation Board of Ontario (Appendix I), in which the "mechanism of injury" is described as "Strains in flexion, rotation and with lifting", causing 87.7% of the injuries in the study.
13. The Florida survey (Exhibit 2) demonstrates that this type of injury, cared for under chiropractic management, responds in less time and at less expense than when under orthodox medical care. Some of the figures shown under the heading, "Significance of Major Findings" on pages 5 and 6, are as follows:
- Patients in the survey who were under chiropractic care were returned to their jobs in 1/3 of the time required by those under orthodox medical care. Costs of treatment under orthodox medical care, administered by general practitioners, was 27.5% more than costs of chiropractic care. In cases attended by medical specialists the costs were more than 200% greater than chiropractic costs, yet under chiropractic care the patient was returned to work in an average of 2.5 days compared to 30 days under specialists' care.
14. The efficacy of chiropractic management in these back cases is further emphasized by Dr. Edgar Cyriax, graduate of the University of Edinburgh, now in the Department of Physical Medicine at St. Thomas' Hospital. Dr. Cyriax is quoted in the Lacroix Royal Commission report recently released by the Government of Quebec:

"Based on my knowledge of several thousand cases, I have come to the following conclusions:

- a) Slight displacements of vertebral and pelvic bones occur very frequently, especially in cases of trauma (sudden knocks, etc.)
- b) A great many symptoms of diseases can easily be explained by such displacements.
- c) Most of these displacements can be reduced painlessly.
- d) Their adjustment is an essential element, and even a sine qua non for healing or improving the pathological state caused by these displacements."

15. In another paragraph in which he discusses manipulation, Dr. Cyriax states:

"But most patients who need it never get it. How can that be so?

It is a large hiatus costing the Health Service millions."

16. The value of chiropractic vertebral manipulation as a method of treatment was studied by The Honourable Mr. Justice Gerard Lacroix in preparing his report on chiropractic for the Government of Quebec. The Hall Commission (Royal Commission on Health Services) agreed, (Exhibit 3, paragraph 5) after discussing the matter with Mr. Justice Gerard Lacroix, to accept his findings as having application across Canada. The most significant of these findings, in so far as this submission is concerned, is that chiropractic vertebral manipulation is a valuable system of treatment and should be available to people under provincial statute.

17. Under the Workmen's Compensation Act of Ontario, it has been provided to injured workers for many years, and its use has steadily increased. The worker has his initial choice of practitioner following injury but may not change to another practitioner without the Board's approval.

18. The statistics found in Exhibit 2 demonstrate the effectiveness of this therapy in cases of spinal injuries of the sprain and strain variety caused by

lifting, pushing, pulling, etc. For emphasis, we repeat that in the survey of "problem low back" cases carried out by the Workmen's Compensation Board (Appendix I) at its Rehabilitation Centre, it is stated that 87.7% of the cases in the survey were caused by "strains in flexion, rotation and with lifting". A natural area, therefore, for the application of spinal adjustments by qualified chiropractors - yet this treatment was not included in the study.

19. Although the chiropractic management of spinal injuries is highly effective, there are always those cases which are found to require other types of care. When a patient fails to make satisfactory progress the Board will arrange for him to receive further examinations and to be transferred to medical treatment. To the best of our knowledge, the reverse of this procedure is not carried out. A patient who has failed to respond to medical care is rarely, if ever, given the benefits of treatment by a chiropractor.

20. The results that could be obtained through such a procedure are well known to medical specialists who have studied chiropractic vertebral manipulation. Dr. John McM. Mennell, of the Physical Medicine and Rehabilitation Service, Veterans Administration Centre, Los Angeles, California, states the facts very clearly in his book entitled "Back Pain - Diagnosis and Treatment Using Manipulative Techniques" (Little, Brown and Company, 1960). On pages 3-5, he discusses the improved methods of handling back problems and makes the following statements:

21. "During the past 50 years there have been six major theories as to the cause of pain in the lower back. Methods of treatment have been devised for each one...." "None of these theories ever lived up to the claims made for them by their proponents, though there was

some truth to a greater or lesser degree in each of them....

The public soon came to realize that they would find greater relief more quickly and more economically from osteopathic and chiropractic treatment of their backs than they would from orthodox medical treatment."

22. "Our profession has been rapidly losing ground to other groups who practise the healing arts in all problems concerning joint pain, but particularly in the field of back pain."
23. "Backache results in one of the greatest economic drains on the civilized world to-day, not only in money but in loss of productivity."
24. These words of Dr. Mennell summarize the problem very accurately and completely and reinforce the points which we have made so far in this submission; namely -
- a) the detrimental influence that back injuries exert upon the nation's economy. (Exhibit 1)
 - b) the difficulties which "problem low back" cases present to the medical profession and the unsatisfactory results obtained through orthodox medical treatment. (Appendix I)
 - c) the important contribution that chiropractors could make in the handling of these conditions. (Exhibit 2)

DURATION OF TREATMENT

25. A chiropractor treating a patient who is on compensation must, at the end of 17 days, request permission from the Board to extend treatment beyond that time if he feels it is necessary. These extensions may be requested and obtained either over the telephone or by mail. Many years ago the time limit

was 7 days with the added stipulation that a medical examination be obtained to determine whether the treatment should be continued. This was subsequently revised to a period of 14 days without the need for a medical examination; however, the chiropractor was then required to contact the Board to request an extension of treatment. A few months ago the period of time was again lengthened; this time to 17 days. Requests for extended time must still be made if treatment is necessary beyond the 17th day.

26. We believe that this automatic requesting of an extension of time creates an undue administrative burden upon both the Board personnel and the chiropractor. If there is any delay in obtaining the authorization to continue treatment, it could cause delay and confusion in the patient's treatment program. We feel that the routine report on the patient's condition and progress should enable the board to assess the case without the need to telephone or write a letter automatically on the 17th day. The very fact that extensions are granted over the telephone demonstrates that the Board could exercise the same degree of control and supervision on the basis of progress reports. Nothing could be said over the telephone that could not be included in the routine report.

27. It is of interest to note here that, whereas a chiropractor must request an extension after only 17 days, the "problem low back" cases studied in the survey (Appendix I) were not considered as "problems" until they had been under the care of a private medical practitioner for six weeks. Considering the overwhelming evidence of the efficacy of chiropractic management of spinal injuries it would seem that this automatic 17-day limit, compared to six weeks under medical care is hardly justified.

28. In the report of the Commission of Inquiry into the Workmen's Compensation

Act in British Columbia, 1966, The Honourable Mr. Justice Charles W. Tysoe states on page 160:

"The Legislature has expressly recognized the right of qualified chiropractors to treat injured workmen, and in this respect has put them on the same plane as members of the medical profession, with their treatment subject to the same supervision and control by the board."

29. We would point out here that there is no regulation in British Columbia requiring the chiropractor to ask for an extension after 17 days. The Board makes its decision on the basis of the reports submitted, as they do in cases under medical care. Of course, the Board in Ontario, as in British Columbia, has the right to call in a patient for examination at any time in the proper exercising of its responsibilities.

ROYAL COMMISSION FINDINGS

30. The conclusive evidence of the distinctive contribution that can be made by members of the chiropractic profession in the field of health services, has been supported by the findings of several Royal Commissions in recent years. These commissions are listed below for the information of this Inquiry, along with quotations or comments on their decisions:

31. Commission of Inquiry into the Workmen's Compensation Act
of Ontario,
The Honourable Mr. Justice W. D. Roach, Commissioner
1949-50

During this inquiry the Ontario Medical Association and the College of Physicians and Surgeons of Ontario requested that our services be removed as a benefit under the Act. The Commissioner rejected this proposal and stated on page 103 of his report: "The Board is not concerned with any jealousies

or conflict in opinion or technique that may exist between physicians and drugless practitioners. The welfare of the injured workman is its main concern."

32. Honourary Royal Commission Appointed to Inquire into
 the Provisions of the Natural Therapists Bill
 Western Australia, 1961

This Commission decided that the chiropractors were providing a useful service that was in demand by the people of Western Australia and recommended that chiropractic legislation be enacted by the Legislature and that a college be established in Australia. The legislation has since been passed and a college is under consideration by the Australian chiropractors.

33. Royal Commission Inquiring into Chiropractic and Osteopathy,
 for the Government of Quebec,
 The Honourable Mr. Justice Gerard Lacroix, Commissioner.
 1963-65

This Commission's findings in relation to chiropractic treatment have been accepted by the Royal Commission on Health Services (Hall Commission). The Commission recognizes the value of chiropractic vertebral manipulation as a method of treatment and recommends that suitable legislation be established in Quebec. The Government introduced this legislation for first reading before the recent Quebec election.

34. The Commission also pointed out that it would be dangerous for those untrained in the procedure to attempt to apply it. The report states that generally speaking, physicians and physiotherapists are not trained in vertebral manipulation but that chiropractors, by virtue of their course of study in

accredited colleges, are qualified in this field. Our analysis of the French version of this report is presented as Exhibit 3 (see paragraphs 30-35 in Exhibit 3). The English translation of the report is still being prepared by the Queen's Printer in Quebec City.

35. Commission of Inquiry into the Workmen's Compensation Act
in British Columbia
The Honourable Mr. Justice Charles W. Tysoe, Commissioner
1966

Once again representatives of organized medicine requested that the services of chiropractors be deleted from the Act - a proposal rejected by Mr. Justice Roach in Ontario 16 years earlier. In this instance, Mr. Justice Tysoe took the same view as the Ontario Commissioner and rejected the recommendation. He went further and suggested in his report that posters printed by the Board should make it clear to workers that chiropractic treatment is available under the Act.

W.C.B. POSTERS IN ONTARIO

36. Posters issued by the Workmen's Compensation Board in Ontario have been a matter of concern to our profession for about ten years. Until a few months ago the posters carried no explanation of the words "drugless practitioner", thereby leaving the worker in doubt as to the exact benefits available to him.
37. After many years of effort we were successful in convincing the Board that some clarification should be made. This was done by adding the words "chiropractor" and "osteopath" in brackets following "drugless practitioner". This is quite acceptable to us, except for the fact that the posters are not being

distributed until a firm requests one to replace a worn poster presently on the bulletin board. We feel that it might take years to replace all the posters in Ontario in this manner and wish, therefore, to recommend that all obsolete posters presently on display be replaced by the new version which clarifies the benefits included under the Act. Until this is done we will continue to hear complaints that industrial nurses, first-aid attendants or personnel managers, are advising workers that they may not attend a chiropractor under compensation. This has been a recurring problem for many years and can only be corrected by prompt distribution of the new posters.

MILEAGE PAYMENTS

38. Respecting the allowances paid for mileage travelled while on house calls, we would like to draw the Commission's attention to a situation which we believe must be rectified.

39. At the present time, the Board pays at the rate of fifty cents per mile in one direction. However, "no mileage is paid for treatment in the district of other doctors" (Schedule of Chiropractic Fees - Item 6 - Exhibit 4). This can only be interpreted to mean that the Board feels the patient could receive the same treatment from a physician. It would appear from this regulation that if a pediatrician or ophthalmologist has offices close to the patient's home, there will be no mileage paid to the chiropractor who is called upon to travel some distance to reach the patient. While we recognize that there may be some need to regulate distances travelled on house calls, the present policy is not acceptable to our association and we recommend that a more reasonable approach be adopted.

RECOMMENDATIONS

40. In the interests of improving the health care available to injured workers in Ontario through the Workmen's Compensation Act, we make the following recommendations:

- 1) That the services of duly qualified, licensed chiropractors be added to the treatment methods presently available in the Compensation Board Rehabilitation Centre at Downsview, Ontario, and in view of the difficulties experienced at the Centre in the handling of low back cases, that the full benefit of chiropractic knowledge and clinical application be added to any problem low back clinics. We believe that in the specialized field of neurospinology, in which the chiropractor receives his training, it is a serious error of omission to withhold this method of therapy from injured workers.
- 2) That patients having back problems which have not responded satisfactorily under medical treatment, be transferred to qualified chiropractors for treatment, just as patients under a chiropractor's care are presently transferred to a medical practitioner if progress has been unsatisfactory.
- 3) That in view of the difficulties of adjudication experienced in the area of spinal injuries, and in view of the increasing use of chiropractors' services in this field, and particularly in view of the benefits which would result from the broader use of these services, a chiropractor be retained as a consultant by the Board. In the event that recommendations 1) and 2) are accepted by the Commission, then the post of chiropractic consultant would appear to be essential.
- 4) That the limit of 17 days on chiropractic treatment before requesting an extension from the Board, be discontinued, and decisions based on progress reports.

- 5) That in cases where the Board deems it advisable to transfer the patient for a different method of treatment, there should be no lengthy period during which the patient is not receiving help from anyone. The first visit to the second practitioner should be within one week of the final visit to the first practitioner. Some patients have had to wait for much longer periods of time without treatment of any kind.
- 6) That mileage payments of \$1.00 (one dollar) per mile be met by the Board provided there is no other chiropractor in the patient's community.
- 7) That the up-to-date posters (Form 82), authorized and printed by the Board, be distributed to firms in Ontario without further delay in order that workers and first-aid attendants may clearly understand the treatment benefits provided under the Act. As mentioned earlier, the Royal Commission on the Workmen's Compensation Act in British Columbia (1966) recommended that Board posters should clarify for the workers the treatment benefits provided. Our Ontario posters were revised many months ago but will not succeed in solving this problem until they have been distributed.

CONCLUSION

41. We trust that these recommendations will be helpful to this Commission. The obvious need for finding new methods for treating back injury cases, as stated in the survey of "problem low back" cases (Appendix I), serves to emphasize the importance that should be attached to this situation. We wish to assure this Commission, and the Board, of our fullest co-operation in these matters and of our interest in making a distinctive contribution to the treatment program provided for injured workers in Ontario.
42. In the light of certain submissions which have been made to similar Commissions in the past, both in Ontario and British Columbia, we would respectfully request the privilege of studying any presentations which make references to our profession or to our methods of treatment, and of commenting thereupon if deemed advisable by our delegates.

Submitted on behalf of the
Ontario Chiropractic Association

L.E. MacDougall, D.C.

President

N.S. Harris, D.C.

Liaison Officer

to the
Workmen's Compensation Board

D.C. Sutherland, D.C.

Executive Secretary

APPENDIX I

LOW BACK PAIN IN MEN RECEIVING WORKMEN'S COMPENSATION

A.W.M. White, M.B., B.Sc., F.R.C.S. (Edin.), Toronto

Canadian Medical Association Journal, July 9, 1966, Vol. 95.

EXHIBITS

1. "Back Injuries - A Major Health Problem in the United States",
Department of Research and Statistics,
American Chiropractic Association.
2. "A Survey and Analysis of the Treatment of Sprain and Strain Injuries
in Industrial Cases",
Insurance Relations Committee, Florida Chiropractic Association.
3. "A Report on the Findings of a Royal Commission on Chiropractic",
Journal of the Canadian Chiropractic Association,
December-January, 1965-66, Vol. X, No. 1.
4. "Schedule of Chiropractic Fees",
The Workmen's Compensation Board of Ontario.

Low Back Pain in Men Receiving Workmen's Compensation

A. W. M. WHITE, M.B., B.Sc., F.R.C.S.[C], F.R.C.S.(Edin.),* Toronto

In Ontario, only about 10% of compensation patients with low back pain are disabled more than six weeks and hence tend to have chronic complaints. Six hundred and twenty-three such patients were studied to determine the distribution of diagnoses and to test the effectiveness of various programs of conservative therapy.

Two hundred and thirteen patients were assigned in rotation to one of four treatments. The results were inconclusive. In 70% of these, the pain was due to intervertebral disc degeneration with added trauma.

Two hundred and sixteen patients were assigned randomly to a treatment involving mild exercise, or one with vigorous exercise. Neither was found to be superior. In 76% of these, the pain was due to disc degeneration with added trauma.

Using 194 patients, the results of treatment in the Compensation Board Rehabilitation Centre were compared with those obtained by treatment at home. Satisfactory improvement was achieved in 15 of 95 treated at home, and in 42 of 99 in the Centre. The failure of treatment in six of each 10 cases indicates that present-day methods of management of such patients are unsatisfactory.

LOW back pain caused by or precipitated by industrial accidents, often minor and not otherwise noticed, accounts annually for about 12,000 claims accepted by the Workmen's Compensation Board of Ontario. In more than one-half of these the condition does not cause interruption of the patient's regular work. Only about 10% are disabled longer than six weeks, but in these the disability is likely to be very prolonged, and in spite of treatment by orthodox methods during this time and often for a much longer time, a disabling degree of pain tends to continue, with little or no improvement. It is this small proportion of compensation patients with low back pain that we refer to as "problem cases". They constitute about one-third of the total patient population of the Hospital and Rehabilitation Centre of the Workmen's Compensation Board of Ontario, Downsview, Ontario.

This Centre is an institution of 500 beds. Its purpose is to achieve as complete restoration as possible of capabilities lost to patients as a result of industrial accidents, and to assist in the placement of these patients in suitable employment.

In 1959 a study of a representative group of these "problem" cases in the Centre was instituted. Only this special group was the subject of the study, and the findings are related only to cases within it. This investigation was not concerned with the great majority of "low back" compensation cases, because these patients do not become "problems" and are not admitted to the Centre.

En Ontario, 10% seulement du nombre des cas de compensation (lombalgie) n'ont été estropiés que pendant plus de six semaines et sont sujets à des malaises chroniques. On a étudié 623 malades, en vue de déterminer la distribution des diagnostics et d'évaluer l'efficacité de divers traitements conservateurs.

On a affecté 213 malades à des traitements (un à quatre) à tour de rôle. Les résultats n'ont pas été concluants. Chez 70% de ces cas, la douleur relevait d'une luxation du disque intervertébral avec traumatisme surajouté.

On a appliqué au hasard à 216 malades un traitement comportant de légers exercices ou des exercices plus énergiques. Aucun des deux modes de traitement ne s'est révélé supérieur à l'autre. Chez 76% des malades, la douleur provenait d'une dégénérescence discale avec traumatisme surajouté.

Chez 194 malades, les résultats du traitement appliqué au Centre de réadaptation du Bureau de Compensation ont été comparés à ceux que donnait un traitement à domicile. Sur 95 malades traités à domicile, 15 ont été améliorés de façon satisfaisante, contre 42 sur 99 au Centre. L'échec du traitement constaté chez six malades sur 10 permet de conclure que les méthodes thérapeutiques actuelles sont insuffisantes.

PURPOSE AND DESIGN OF THE STUDY

The extensive medical, social and economic problems created by these patients were the primary reason for this study. An additional stimulus was the pessimistic outlook of many members of the medical staff toward the treatment of these "problem" cases, and our impression that this outlook is shared by the medical profession generally.

TABLE I.—DESIGN OF THE STUDY:
THREE GROUPS OF PATIENTS—ADMITTED AND STUDIED CONSECUTIVELY

Group I (213 patients)	Group II (216 patients)	Group III (194 patients)
<i>Purpose:</i> Comparison of effectiveness of four different types of treatment	<i>Purpose:</i> Comparison of effectiveness of treatment by two dissimilar types of treatment in this Centre	<i>Purpose:</i> Comparison of effectiveness of two markedly different types of treatment
<i>Result:</i> Failure to achieve purpose. Learned some causes of failure and how to avoid them. Learned the proportion of patients in each diagnostic group.	Group IIA Moderate progressive exercises Group IIB Vigorous progressive exercises <i>Result:</i> Suggested the effectiveness of the two types of treatment is similar.	Group IIIA At home Group IIIB In Centre <i>Result:</i> Treatment was disappointing in both, though the rate of improvement was higher in the Centre.

The study was intended to provide more definite knowledge concerning: (1) the anatomical source of low back pain in these patients, (2) the results of current methods of treatment of such cases at the Centre, and (3) the relative value of the various treatments.

GROUP I

Purpose

In this group of 213 patients, an attempt was made to compare the effectiveness of four treatment programs, bed rest, moderate exercises, vigor-

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ous exercises, and a control period at home with no treatment. A uniform routine of treatment was designed for the three programs carried out at the Centre.

Materials and Methods

The patients were taken into the study in the order in which they were admitted to the Centre, up to six per week. The chief criterion determining their acceptance into the study was that each had been given one of the diagnoses shown in Table II.

TABLE II.—DISTRIBUTION OF DIAGNOSES IN PATIENTS, GROUP I

Diagnostic classification	No.
1. Spondylolysis.....	4
2. Spondylolisthesis.....	7
3. Herniated intervertebral disc with neurological signs	61
4. Herniated intervertebral disc with subjective symptoms.....	58
5. Facet syndrome.....	16
6. Osteoarthritis.....	8
7. Disc degeneration and strain.....	50
8. Primary psychogenic pain.....	9
Total.....	213

The clinical diagnosis was assigned in each case by a diagnostic team, made up of an orthopedic surgeon and either a neurologist or neurosurgeon. Unless the two members of a team agreed upon the diagnosis, the patient was excluded from the study. Patients with fractures or soft-tissue injuries and those seen postoperatively were also excluded.

An attempt was made to assign patients in each diagnostic class in rotation to one of the four treatment programs: bed rest, moderate exercise, vigorous exercise, or a period at home.

Results

There was no substantial evidence that one treatment program was more effective than another. The separation of the patients in each of the eight diagnostic classes into four treatment programs divided the patient population into groups too small for profitable comparison. Also, the assignment of a treatment program by rotation was frequently impossible because in some patients vigorous exercise was prohibited owing to the severity of symptoms and in others bed rest was unwarranted because the symptoms were so mild.

However, the study of the 213 patients in Group I was valuable, in that it guided us in the preparation of the protocol for the study of the later groups.

Of particular interest is the distribution of diagnoses in these 213 cases (Table II). In 70% of the patients in this group, the diagnosis was (a) herniated intervertebral disc with positive neurological signs, (b) herniated intervertebral disc with only subjective symptoms, or (c) disc disease with strain.

Thus, in a high proportion of our cases, the pain was "discogenic", that is, it was the result of trauma to a degenerated intervertebral disc. The use of this term also implies that an abnormality of the disc preceded the pain and caused it, as in these three conditions.

GROUP II

Purpose

This group of 216 patients was studied in order to compare the effectiveness of two markedly different types of treatment: Program A—mild exercises along with physiotherapeutic measures to relieve pain, and Program B—vigorous exercises. No medication was given to patients in either group.

Materials and Methods

Patients with low back pain were again selected in the order of their routine admission, up to six per week. Criteria for their acceptance into the study were the same, i.e. the diagnostic team had agreed upon and assigned one of the diagnoses listed in Table II.

Two hundred and sixteen patients were assessed clinically and, after the diagnosis was made, were classified according to the severity of the condition, into various levels of physical impairment. Most of the patients in this group were in the second disability status, that is, "mildly incapacitated". This term is defined in Table III.

TABLE III.—CRITERIA FOR CLASSIFYING PATIENT "MILDLY INCAPACITATED" USED IN PATIENTS IN GROUP II

Has discomfort in back or leg for a significant part of the day, and occasionally this amounts to real pain.
Ordinary, mild activity is not prevented.
Certain activities, repeated bending, lifting, digging, provoke real pain.
Is comfortable in bed.
Does not take more than four tablets of acetylsalicylic acid, phenacetin, and codeine, grain 1/8, per day.
Spinal tilt due to spasm is absent.

Treatment

Patients who were considered to be "mildly incapacitated" were assigned, in a strictly random manner, to one of two programs in which active treatment was given for seven hours each day.

Program A consisted of mild exercises, progressing to moderate exercises with *avoidance of aggravation of pain*. The patients went to the physiotherapy department where they had short-wave diathermy, posture training and static trunk exercises. In the gymnasium they took part in back exercise classes prescribed on the basis of their symptoms, and had general calisthenics in the pool. No resistance exercises were allowed. In the occupational therapy department, their activities were those of general work.

In Program B, patients were encouraged to perform vigorous exercises in spite of aggravation of

the pain. They did not go to the physiotherapy department. In the gymnasium, flexion and extension exercises were performed against resistance and games of the heavy remedial type were used. In the occupational therapy department, their activities were those of heavy occupation but with instruction in correct use of the back. They practised, for example, wood chopping, shovelling, bending and lifting.

On each program, treatment was continued until the patient showed improvement or deterioration, or the clinician had satisfied himself that no change was likely to occur.

Results

1. Of 216 patients in this group, 175 (76%) were assigned one of the following diagnoses: herniated intervertebral disc with neurological signs, herniated intervertebral disc with subjective symptoms, or disc degeneration and strain. As in Group I, the pain in most of the cases was "discogenic".

2. Of the 175 patients assigned one of these three diagnoses, 148 were "mildly incapacitated" as defined in Table III. Of these, 76 were treated according to Program A, and 72 according to Program B. Improvement occurred following each program in almost equal proportions—38% after Program A (light) and 35% after Program B (heavy). The duration of treatment ranged from 10 to 49 days on Program A and from three to 49 days on Program B. The records suggest that a definite decision regarding the results of treatment was reached earlier in Program B, whether the patient showed improvement, no change or deterioration. As expected, of those who failed to improve, a larger number developed increased pain on Program B than on Program A.

3. Of the 148 patients in the two programs, improvement occurred in about 38%. There was no change in about 54%, and the clinical condition deteriorated in about 8%. It should be noted that improvement is not synonymous with cure. Indeed, complete loss of pain almost never occurred. Improvement was measured by clinical assessment only, and the relationship between improvement and subsequent ability to work was not investigated.

4. No relationship was demonstrated between the rate of improvement and the length of time between the accident and admission to the Centre.

GROUP III

Purpose

The 194 patients in Group III were studied in an attempt to answer the following questions:

1. Do the results of treatment of problem "low back" patients in the Ontario Workmen's Compensation Board Hospital and Rehabilitation Centre justify the time, effort and expense involved?

2. Are there any factors which have a definite prognostic significance in the individual case?

Materials and Methods

Criteria for admission to the study

Up to eight patients each week were accepted in the order of their routine admission to the Centre, provided only that the following criteria were met:

(a) They were men with accepted claims for compensation for low back pain.

(b) They had significant back disability on admission as judged by clinical assessment.

(c) They must be over 19 and under 60 years of age at the time of the accident which led to the disability.

(d) Not less than six weeks and not more than 12 months had elapsed between the date of accident and the date of admission to the Centre.

(e) The patient must not have worked for more than two weeks continuously between the accident and the time of admission.

(f) The diagnosis must be that of "discogenic" pain in the low back, with or without sciatica; and it must be one of the three diagnoses used in analysis of results in Group II, namely intervertebral disc herniation with objective neurological signs, intervertebral disc herniation with only subjective neurological symptoms, or disc degeneration with strain.

While these criteria were necessary for admission to the study, cases with previous spinal surgery, significant co-existing trauma or disease, or fractures of the spine were excluded.

Details of assessment

On admission to the Centre the patients were first assessed briefly by the admitting Medical Officer. If the findings suggested that the criteria might be satisfied, the patients were referred, in the order of their admission, to the "back study" clinician. He assessed the case more carefully and if, in his opinion, the criteria had been met, the patients were accepted conditionally into the study. Each patient so selected was then examined by one of several diagnostic teams—an orthopedic surgeon and either a neurologist or neurosurgeon. If the team agreed that the diagnosis was one of the three named above, the patient was accepted into the study. Each patient had the following investigation:

1. Medical history and physical examination recorded on a standard form.

2. Assessment of severity of the condition as mild, moderate, or severe, according to definite criteria.

3. Radiologic examination of the lumbar and lumbosacral spine, including anteroposterior and oblique views of the spine in neutral position and

lateral views in flexion and extension. All views were taken with the patient standing.

4. Sedimentation rate and urinalysis.

5. Assessment of the general psychological adjustment by an experienced and well-trained psychologist.

6. Report by a Rehabilitation Officer detailing the work history and the educational and social background. All reports were compiled by one senior Rehabilitation Officer.

7. Estimation of physical demand of job at the time of the accident, according to the following classification: Class 1, in which the heaviest of physical requirements were demanded, gradually through decreasing physical requirements to Class 12, the very lightest. Again, all these reports were prepared by one Rehabilitation Officer.

Treatment

Random sampling number tables were used to assign the patients to one of two treatment programs.

Program A (Group IIIA, Table I): On this program, after the above investigation, the patient was discharged from the Centre to the care of his own doctor. By telephone and by letter, the doctor was requested to treat the patient in whatever manner he thought advisable. The patient was readmitted to the Centre at the end of six weeks and the investigative procedures noted above were repeated. If the patient was judged fit to return to work before six weeks had passed, he was still readmitted to the Centre for this assessment.

Program B (Group IIIB, Table I): The patient remained on this program in the Centre for six weeks unless he became fit for work earlier. The aims of treatment were to relieve pain and to restore the capacity for physical exercise to the level demanded by the requirements of the the man's job. Treatment was divided roughly into four stages, namely, hospital bed rest, light progressive, moderate progressive, and heavy progressive activities. The demands of treatment were kept within the tolerance of the individual. Any of the facilities of the departments of physiotherapy, occupational therapy and remedial gymnastics were used, when, in the opinion of the "back study" clinician, they were indicated. Treatment was carried out by a team of therapists from the three departments working in close co-operation with each other and with the clinician.

Principles and techniques of treatment were described in detail in the protocol of the study, and were similar to those used in the Centre for cases not on this study. It was a program tailored to the particular needs of the individual.

Comparability of Patients in Group III on Programs A and B

The 95 patients in Group IIIA, and the 99 patients in Group IIIB were treated in radically

TABLE IV.—DISTRIBUTION OF VARIOUS FACTORS IN PATIENTS ON THE TWO TREATMENT PROGRAMS

Variable	Program A		Program B		Total	
	Cases	%	Cases	%	Cases	%
Origin:						
Canadian.....	36	37.9	46	46.5	82	42.3
Italian.....	27	28.4	28	28.3	55	28.3
Others.....	32	33.7	25	25.2	57	29.4
Diagnosis:						
No. 3.....	23	24.2	27	27.3	50	25.8
No. 4.....	17	17.9	20	20.2	37	19.1
No. 7.....	55	57.9	52	52.5	107	55.1
Age:						
20 - 29 years.....	15	15.8	18	18.2	33	17.0
30 - 39 ".....	38	40.0	38	39.4	77	39.7
40 - 49 ".....	29	30.5	30	30.3	59	30.4
50 - 59 ".....	13	13.7	12	12.1	25	12.9
Seniority:						
Less than 1½ years.....	44	46.3	42	42.4	86	44.3
1½ years to less than 5 years.....	23	24.2	28	28.3	51	26.3
5 years and over.....	28	29.5	29	29.3	57	29.4
Job at time of accident:						
Heavy.....	24	25.3	13	13.1	37	19.1
Medium.....	37	38.9	55	55.5	92	47.4
Light.....	34	35.8	31	31.3	65	33.5
Employing industry:						
Construction.....	19	20.0	13	13.1	32	16.5
Mining.....	10	10.5	4	4.4	14	7.2
Transport.....	5	5.3	11	11.1	16	8.2
Others.....	61	64.2	71	71.7	132	68.0
Modified work assured.....	29	30.5	39	39.4	68	35.0
Modified work not assured.....	66	69.5	60	60.6	126	64.9
Economic status stable.....	84	88.4	90	90.9	174	89.7
Economic status unstable.....	11	11.6	9	9.9	20	10.3
General adjustment psychologically:						
(137 tested) Normal.....	24	36.4	40	56.3	64	46.7
Equivocal.....	24	36.4	15	21.1	39	28.5
Abnormal.....	18	27.2	16	22.5	34	24.8
English:						
Adequate.....	67	70.5	69	69.7	136	70.1
Inadequate.....	28	29.5	30	30.3	58	29.9
Radiograph finding in spine:						
Negative.....	13	13.7	15	15.1	28	14.4
Degenerative changes present.....	70	73.7	80	80.8	150	77.3
Instability present.....	49	51.6	44	44.4	93	47.9
Developmental abnormality present.....	17	17.9	10	10.1	27	13.9
Admission symptoms:						
Nil to mild.....	—	—	—	—	—	—
Moderate.....	15	15.8	13	13.1	—	—
Severe.....	80	84.2	86	86.9	—	—

different ways, as described in the two preceding paragraphs. In order to be as sure as possible that the difference in treatment in these two groups produced the difference in degree of improvement, it seemed important to determine whether or not the groups differed in any other important respect. For this reason the patients in the two groups were compared according to nationality, diagnosis, age, seniority at job, physical demands of job, type of industry in which employed, assurance of modified work at their place of employment if required, stability of economic status, general psychological adjustment, ability to communicate in English, and severity of symptoms. It was found that the two groups were reasonably comparable with respect to all of these characteristics, none of the differences being of statistical significance (Table IV).

Measurement of Effectiveness of Treatment

We had found in the previous groups in the study that clinical assessment of the man's ability to work frequently did not correspond to his actual work performance after discharge. Therefore assessment of effectiveness of treatment in the

TABLE V.—CRITERIA FOR CLASSIFICATION OF RESULTS OF TREATMENT ON BASIS OF WORK RECORD DURING FIRST 90 DAYS AFTER DISCHARGE FROM BACK STUDY

Clinical result			
Satisfactory		Unsatisfactory	
Excellent	Good	Fair	Poor
1. Working full time at pre-accident job or 2. By own statement is able for 1 (above)	1. Working at pre-accident job but with up to 20% time loss or 2. Working at modified work with no time loss or 3. By own statement is able for 1 or 2 (above) but not more	1. Working at pre-accident job but with 20 - 50% time loss or 2. Working at modified job with up to 20% time loss or 3. By own statement is able for 1 or 2 (above) but not more	1. Working at pre-accident job with more than 50% time loss or 2. Working at modified job with 20 - 50% time loss or 3. By own statement is able for 1 or 2 (above) or for less or 4. Has had back surgery in the first follow-up period

Note: All limitation of ability to work is caused by "low back" symptoms.

patients in Group III was based on the records of the actual accomplishment at work during the first three months after discharge from the study. Obviously there is much possible variation in levels of accomplishment at work in any group of patients during this three-month period. We arbitrarily divided these possible levels into four groups: "excellent", "good", "fair" and "poor". These terms are defined in Table V. This classification affords a practical measure of the success of the Centre in achieving its purpose, which is the rehabilitation of its patients.

Results

In Table VI the "excellent" and "good" results have been combined as "satisfactory", and the "fair" and "poor" as "unsatisfactory".

1. In Program A satisfactory results were obtained in about 15% of patients and in Program B in about 42%.

TABLE VI.—RESULTS ON BASIS OF WORK HISTORY (TABLE V) DURING THE 90 DAYS FOLLOWING PROGRAM A (UNDER OUTSIDE DOCTOR) AND PROGRAM B (IN THE CENTRE)

	Program A 95	Program B 99	Total 194
Judged clinically fit for work after six weeks.....	31 = 32.6%	59 = 59.5%	90 = 46.4%
Proved "unsatisfactory".	16 = 16.8%	17 = 17.1%	33 = 17.0%
Proved "satisfactory"	15 = 15.8%	42 = 42.4%	57 = 29.4%

With respect to the first question posed before the study of Group III was started, namely "Do the results of treatment of problem 'low back' cases in the Ontario Workmen's Compensation Board Hospital and Rehabilitation Centre justify the time, effort and expense involved?", treatment for six weeks in the Centre produced satisfactory results two and one-half times more often than a comparable period of treatment outside. Nevertheless, satisfactory results were obtained in only

four of 10 patients by treatment in the Centre, a disappointing result indeed. It is important to note that for each four patients in whom satisfactory results were obtained, there were six failures.

2. At the end of six weeks, of the 95 patients on Program A, 31 were discharged as "fit to go to regular or modified work", but subsequently only 15 proved to be fit in terms of work accomplishment in the first 90 days after discharge. Of 99 on Program B, 59 were discharged at six weeks as fit to return to regular or modified work, and only 42 proved actually capable of this. Thus clinical assessment of ability to work proved inaccurate in 33 of 90 cases.

3. Prolonging Program B beyond six weeks yielded only nine additional satisfactory results in 40 patients.

4. In the study of the patients in Group III, we examined 14 factors that were considered to have a possible effect on the result obtained from treatment. These factors and their distribution in the "satisfactory" and "unsatisfactory" groups are shown in Table VII. Surprisingly, only the last two, co-operation and accomplishment on treatment, seemed to have a relationship to the final outcome. However, this may have been due simply to the fact that many of those who co-operated well and carried out more of the prescribed treatment program had a less severe back pain.

Thus, in answer to the second question, "Are there any factors which have a definite prognostic significance in the individual case?", it appears that none of the various associated factors had any prognostic significance when applied to the entire group. It seems that the results of treatment cannot be predicted by routine consideration and weighing of these factors. Nevertheless, it is possible that some of these factors may be of value in prognosis, in an individual case, if applied carefully by an experienced clinician.

In the mass of accumulated data there were many findings which seemed sufficiently interesting to record, although they have questionable or no

TABLE VII.—DISTRIBUTION OF VARIOUS FACTORS IN "SATISFACTORY" AND "UNSATISFACTORY" CASES

Result	Satisfactory		Unsatisfactory		Total	
	75 cases		119 cases		194 cases	
Factor	Cases	%	Cases	%	Cases	%
Origin:						
Canadian	38	50.7	44	37.0	82	42.3
Italian	21	28.0	34	28.6	55	28.3
Others	16	21.3	41	34.5	57	29.4
Diagnosis:						
Number 3	21	28.0	29	24.4	50	25.8
Number 4	12	16.0	25	21.0	37	19.1
Number 7	42	56.0	65	54.6	107	55.1
Age group:						
20 - 29 years	12	16.0	21	17.6	33	17.0
30 - 39	31	41.3	46	38.6	77	39.7
40 - 49	21	28.0	35	29.4	56	28.8
50 - 59	8	10.7	17	14.3	25	12.9
Seniority at accident:						
Less than 1 month	2	2.7	12	10.1	14	7.2
1 month to less than 1½ yrs.	26	36.7	46	38.6	72	37.1
1½ years to less than 5 years	21	28.0	30	25.2	51	26.3
5 years and over	26	36.7	31	26.0	57	29.4
Job at time of accident:						
Heavy	13	17.3	24	20.2	37	19.1
Medium	33	44.0	59	49.6	92	47.4
Light	29	38.7	36	30.2	65	33.5
Employing industry at accident:						
Construction	9	12.0	23	19.3	32	16.5
Mining	6	8.0	8	6.7	14	7.2
Transport	8	10.7	8	6.7	16	8.2
Others	52	69.3	80	67.2	132	68.0
Modified work assured:						
Modified work assured	36	48.0	32	26.9	68	35.0
Modified work not assured	39	52.0	87	73.1	126	64.9
Economic status:						
Economic status stable	68	90.7	106	89.1	174	89.7
Economic status unstable	7	9.3	13	10.9	20	10.3
General adjustment psychologically of 137 tested:						
Normal	28	50.0	36	44.4	64	46.7
Equivocal	15	26.8	24	29.6	39	28.5
Abnormal	13	23.2	21	25.9	34	24.8
English spoken:						
Adequate	60	80.0	76	63.9	136	70.1
Inadequate	15	20.0	43	36.1	58	29.9
Radiographic findings L.S. spine:						
Negative	9	12.0	19	16.0	28	14.4
Degenerative change present	60	80.0	90	75.6	150	77.3
Instability present	34	45.3	59	49.6	93	47.9
Developmental abnormality present	8	10.7	19	16.0	27	13.9
Assessment of motivation at end of treatment in 180 recorded:						
Above average	24	35.8	17	15.0	41	22.8
Average	34	50.7	61	54.0	95	52.8
Below average	9	13.5	35	31.0	44	24.4
Co-operation at treatment of 173 recorded:						
Above average	41	64.1	34	31.2	75	43.4
Average	16	25.0	47	43.1	63	36.4
Below average	7	10.9	28	25.7	35	20.2
Accomplishment on treatment of 125 recorded:						
Above average	35	58.3	18	27.7	53	42.4
Average	16	26.7	25	38.5	41	32.8
Below average	9	15.0	22	33.8	31	24.8

practical application in the solution of the original questions. Some of these findings are shown in Table VIII.

DISCUSSION

The possibility that compensation payment *per se* has an unfavourable effect on the result of treatment of industrial injuries is often suspected. In this study all of the patients received compensation. However, the rate of successful treatment was more than two and one-half times higher among those who were kept in the Centre than among those sent back to the care of their personal physicians. It is reasonable to assume that this difference would not have been so marked if payment

TABLE VIII.—INTERESTING INCIDENTAL FINDINGS

Country of origin:	
Canada	44%
Italy	28%
Others	28%
Time of accident:	
47% between 9:30 and 11:30 a.m., or 1:30 and 3:30 p.m.	
Mechanism of injury:	
Strains in flexion, rotation and with lifting—87.7%	
Type of job:	
Labourers	21.8%
Truck drivers	10.2%
Carpenters	6.3%
Miners	5.3%
Physical requirement of job:	
Heavy	18.7%
Medium	47.6%
Light	33.4%
Average age:	
37.5 years	
Seniority:	
Less than 1 month	7.2%
1 month to 1½ years	37.1%
1½ to 5 years	26.3%
Over 5 years	29.4%
Compensation per week:	
Lowest	\$22.00
Highest	\$84.56
Average	\$64.17
Education:	
Lowest	No formal education
Highest	Grade 13
Average	Grade 7
English-speaking:	
No English	12.1%
Poor	17.0%
Fair	42.2%
Satisfactory	28.7%
Economic state:	
Stable	90.3%
Precarious	9.7%
Onset:	
Sudden	
99.1%	
Previous history:	
26.7%	
Physical evidence of improvement:	
Most useful is increased range of spinal motion.	
Overweight:	
28.2%	
Sedimentation rate and urinalyses:	
No abnormalities	
Radiological findings:	
Normal	14.1%
Degeneration	76.2%
Instability	49.0%
Developmental abnormalities	18.9%
Jugular compression test:	
Positive in 5% of cases with nerve root involvement	

for being disabled delayed recovery to a significant degree.

Our experience suggests that continuing the treatment in the Centre for longer than six weeks is relatively unrewarding, because the increase in satisfactory results is very small. It is well known

that continuing any type of treatment, the results of which are unsatisfactory, can have a detrimental effect because it causes the patient to become pessimistic and his morale to deteriorate. Frequently, ineffective treatment is actually harmful.

We have not been able to demonstrate that any particular type of physical therapy has special merit over other types. This, coupled with the low overall rate of success, raised the doubt whether physical therapy *per se* has any beneficial effect in these cases. However, some factor must be operating at the Centre which accounts for the larger number of patients reaching a satisfactory work tolerance during their stay here. There are, undoubtedly, influences, other than treatment, acting on patients in the Centre. These, though unmeasurable, may be responsible for the improvement in those who achieve a satisfactory result. For example, does the doctor's insistence that the patient continue to be as active as his condition warrants, lead him to discover that he can exert himself sufficiently to return to work in spite of his discomfort? This possibility is suggested by the fact that all of those followed up, to the present, and who are working, report that their low back pain persists. It appears that they have learned to accept this continuing pain as inevitable and, ignoring it as much as possible, have returned to work, even though they lacked the stimulus of economic necessity, which often forces those who receive no compensation to return to work.

The findings in this study raise doubt concerning the efficacy of conservative medical treatment in general for patients in the common "problem low back" category, namely those in whom the diagnosis is herniated intervertebral disc or disc degeneration and strain, and who continue to be disabled longer than six weeks. Perhaps it would be wiser, in cases where there is no definite indication for surgical intervention, to recognize the inadequacy of our present methods of treatment and to search for a completely new approach. Perhaps effective placement of these unfortunate workmen in jobs which are within the limitations imposed by the pain would maintain morale, avoid con-

centration of their attention on their complaints, and, while keeping up reasonable bodily activities, allow passage of sufficient time for the condition to subside. A scientific study of such a plan might be enlightening and rewarding.

SUMMARY

A study of certain aspects of chronic low back pain in compensation cases, at the Workmen's Compensation Board Hospital and Rehabilitation Centre, Downsview, Ontario, is described.

In the great majority of these patients, the symptoms were due to intervertebral disc degeneration with superadded trauma, usually occurring during a routine type of lifting strain, and with no external violence.

A significantly higher percentage of cases achieved a satisfactory level of improvement after six weeks' treatment in this Centre than after treatment outside. Nevertheless, the proportion who achieved this satisfactory result was disappointingly small.

Analysis of 14 personal factors such as the physical, mental and environmental factors peculiar to the individual, failed to reveal any that were helpful in predicting the result of treatment.

Six weeks' treatment in the Centre appeared to be the maximum time advisable. A shorter period might be as effective.

The efficacy of conservative medical treatment in these cases, as commonly carried on with the help of physical therapy, is questioned.

The need for study, to improve or create new methods of management for these cases, is emphasized.

It may be that the emphasis in management should be transferred from medical treatment to suitable job placement.

Full acknowledgment is made to the many persons within the Workmen's Compensation Board organization for the valuable co-operation, advice and help which were so freely given. Especially, the author would like to mention Mr. Harry Worling, Chief Rehabilitation Officer, and his staff. The Research Fellows, Drs. Michael Kugler, M. J. Smythe and the late S. A. Khan, performed most of the arduous and detailed work of this study. Dr. R. A. Young's faithful efforts as "back study clinician" were noteworthy. Finally, the approval and co-operation of the Workmen's Compensation Board of Ontario is cheerfully acknowledged.

This work was done under the direction of the Back Study Advisory Committee, consisting of the following members: Drs. A. W. M. White, B. H. G. Curry, I. Macnab, J. L. Silversides and J. A. O'Reilly.

SUPPLEMENTARY STATEMENT

B.S. REC JAN 24 1967

BY THE
ONTARIO CHIROPRACTIC ASSOCIATION
TO THE
ROYAL COMMISSION
ON THE
WORKMEN'S COMPENSATION ACT OF ONTARIO

The Honourable George A. McGillivray,
Commissioner

January 13, 1967

Mr. Commissioner:

We regret the delay in submitting this supplementary statement to the Commission and trust that it may not be too late to be considered during your deliberations.

We were interested in Dr. Bruce Young's remarks to the Commission following the presentation by the Ontario Chiropractic Association. Dr. Young took exception to our recommendation that the Workmen's Compensation Board pay for spinal manipulation only when provided by a qualified, licensed chiropractor (or osteopath). He stated that there is an attempt being made, in a limited way, to teach this procedure to medical students, but only in certain "settings".

While we are pleased to see the recent awakening of the medical profession to the value of chiropractic vertebral manipulation, we feel that Dr. Young's remarks should be balanced by reference to the comments of other medical specialists in the field of physical medicine.

Dr. Young stated that Dr. Mennell, whom we had quoted earlier, desired "that the medical profession become more knowledgeable and accept that manipulative therapy has a place in the management of conditions of the spinal column."

(Transcript page 1410) We agree entirely with the need for medicine to recognize the value of this therapy and have urged this for over half a century, but becoming familiar with the value of it does not qualify the physician to perform the procedure. This is stated very clearly by Mr. Justice Gerard Lacroix in his report to the Government of Quebec. The appropriate quotations are found in the attached report entitled "Medicine Approves Chiropractic Manipulation", page 2, column 2.

The out-dated view-point held by organized medicine is indicated in a policy adopted in 1921 by the Ontario Medical Association and published in its official history in August, 1964, wherein it is stated that "chiropractic should be given no consideration in law. It is founded on a complete negation of all medical science and progress. If it is anything at all, it is a system of gross and pitiable ignorance". (sic). It was then stated that the O.M.A. has not moved from this policy over the years.

That this type of thinking is still being taught to medical students is confirmed by Dr. ... B. Parsons writing in the medical journal, Applied Therapeutics, November, 1966. In his article, "Manipulation for Backache and Sciatica", Parsons says:

"Yet how many physicians know anything of this method of treatment that can help a high percentage of their patients? A high percentage because so many of the complaints, from headache to painful foot, that brings patients to the doctor's offices are musculo-skeletal in origin, most usually from the spine, and can be relieved by attention to their source of origin.

"These things are not taught in medical schools. Usually the concept is condemned (emphasis ours) so that new doctors go out into the world with no knowledge, or even worse, an antipathy toward this most useful method. (See O.M.A. policy above) Their pills, potions and applications do little good. Even if the nature of the origin of the complaints is recognized and the patient is sent for standard physiotherapy, usually little relief is obtained. Often the patient then goes to another office, his spine is mobilized, his symptoms relieved, and the doctor has lost caste.

"What is manipulation? . . . " The article goes on to describe it to physicians who have remained in ignorance of its value.

The efficacy of chiropractic vertebral manipulation is pointedly emphasized by Gerald L. Burke, M.D., writing in the medical journal, *Applied Therapeutics*, October, 1966. He concludes his article entitled, "The Etiology and Pathogenesis of Pain of Spinal Origin", with this comment;

"I hope that this short sketch will serve to convince some readers that pain of spinal origin is not a huge, amorphous, and insoluble problem.

"It is undeniable - and one cannot be in practice long before it is realized - that certain unmentionable lay practitioners are appallingly successful in the treatment of spinal pains. And, as Sir Robert Jones pointed out, 'their success are our failures.'"

While we recognize the intense interest on the part of men like Dr. Parsons and Dr. Young, to awaken the medical profession to the value of chiropractic vertebral manipulation, we are most seriously concerned over the possibility that the Workmen's Compensation Board would pay for manipulative spinal care applied by medical practitioners who have been taught in the manner described

by Dr. Parsons above. A brief demonstration-type lecture is grossly inadequate to overcome such serious shortcomings. If medicine were to change its code of ethics to permit its members to refer patients to chiropractors or osteopaths, there would be no need for medical doctors to be experimenting on patients with manipulative techniques in which they have received no formal training; which have been condemned to them during their course of studies; and which are already being competently provided by two other professions.

Dr. Parsons' reference to the fact that manipulative therapy is condemned in medical school fits in with the information brought to our attention by medical students, nurses and physiotherapists training at the University of Toronto. This, of course, serves to perpetuate the unnecessary conflict between the professions and should cease.

The October, 1966 issue of the Journal of the College of General Practitioners of Canada, carried an editorial by Dr. W. B. Parsons entitled, "Manipulative Medicine - What is Its Status?" In it the author reviewed the history of manipulation and in his conclusion, states:

"As for the future, some pessimists feel that the medical profession on this continent has lost, by default to the chiropractors and osteopaths, its opportunity to serve in this field."

Speaking to the Toronto Academy of Medicine on September 14th, 1966 on the subject of manipulation, Dr. Ronald Barbor of England, said:

"17% of my patients require manipulation and it is a tragic fact that the average physician learns of manipulation after his patient has been helped by someone outside of the medical profession. This naturally arouses resentment."

Dr. Barbor was presenting a five-day course in manipulation at Sunnybrook

Hospital at the time. This course was hailed as the first course of its kind presented by a university in North America. Seventeen physicians from across Canada attended. There are 1,245 chiropractors in Canada already providing, in a more competent manner, the type of therapy that was under discussion. Much of the five days was devoted to history and theory, so that only a relatively small portion of time was given over to demonstrations. Dr. Mennell states it would take six months of serious study for an already qualified physician to become competent in diagnosis and treatment by manipulative methods. We believe we have sound reasons for our concern over physicians, unqualified in chiropractic vertebral manipulation, attempting to duplicate the service. There is a sufficient shortage of physicians at the present time, that they cannot efficiently handle the demands being made upon them by the public. The proper stand to be taken under such circumstances is that patients requiring manipulative care should be referred to the professions which have specialized in that therapy over the years. Such co-operation would ensure that the patients would receive the highest standard of both medical and chiropractic therapy and we therefore feel that our recommendation with respect to this matter should be adopted.

In conclusion, we would like to point out that Dr. Young must have misunderstood one of our statements when he said on page 1411, lines 15-17, that he frequently recommended that chiropractic treatment be continued after 14 or 17 days. This is a matter of granting an extension of treatment in cases already under a chiropractor's care. What we recommended, in addition to the elimination of the 17 day period, was that patients under medical care who have not responded to orthodox medical methods, be transferred to chiropractic care so that they will have the full benefit of the services available to them under the Workmen's Compensation Board. We do not accept

that experiments with manipulation by a physician, who has attended a brief demonstration, are in any way comparable to the treatment provided by a qualified chiropractor. Indeed, such experimentation could prove harmful in many cases.

It should be stated, in conclusion, that there are many physicians and chiropractors who are co-operating in just the way that is required in order to serve the patients' best interests. It is our hope that this trend can be continued and expanded until it encompasses the entire membership of both professions. In the meantime, we feel it our responsibility to speak out against the provision of a low standard of manipulative care by physicians untrained in its application.

The action taken by the Government of Canada on December 6th, 1966, is a sign that this unfortunate controversy is drawing to a close. On that date the Government extended the federal medicare bill to provide for the inclusion of chiropractors' services in the federal medicare plan. We doubt that this will prevent certain physicians from referring to us as "unmentionable lay practitioners", but certainly those who are capable of viewing the problem more objectively will be glad to see this long debate drawing to an end. It is highly significant that three Members of Parliament who played key roles in convincing the Government to expand the medicare bill to include chiropractors are themselves members of the medical profession. Dr. M. B. Dymond, Ontario's Minister of Health, stated in November, 1966, that as "resources become available" chiropractors' services would be added to Ontario's O.M.S.I.P. The Federal Government's decision has made 50% of those "resources" available.

This supplementary statement is submitted to the Commission in the hope that it may be helpful to you in your deliberations over a most complex problem.

If we can provide any additional information we shall be pleased to do so.

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MEDICINE APPROVES CHIROPRACTIC MANIPULATION

"Injudicious Use" By Untrained Physicians
Presents "Grave Danger"

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Influential medical writers and lecturers are making a serious effort to awaken the medical profession to the value of chiropractic vertebral manipulation. However, paradoxical references appearing in articles or papers presented to medical practitioners indicate a high degree of confusion and misunderstanding on this subject. It results from 69 years of rejecting chiropractic methods as unscientific and fraudulent, followed by the crash program of the past two years having "the object of dispelling the ignorance that leads to prejudice against this form of treatment" (1). A program to dispell ignorance is commendable, but attempts to train physicians by a few brief demonstrations, in the complex art of manipulation, pose a threat to the well-being of the patient who falls into the hands of a professional person who is untrained and unskilled in this art. Mennell (2), a foremost medical authority on this subject, states that it would take six months of concentrated study for an already-qualified physician to become proficient in diagnosis and therapy using manipulative methods. Mennell also warns his profession as follows: "It would be a pity if this presentation of the use of manipulative techniques in the diagnosis and treatment of back pain were to produce a wave of overenthusiastic clinical experimentation. The injudicious or impetuous use of manipulation can only result in failure or even harm. Then it is only human nature to blame the procedure rather than the processor who uses it ineptly." (3). The following contradictory statements made by those who claim to be knowledgeable in this field only serve to add to the confusion and confirm that the "injudicious use" which Mennell decries, is taking place.

Parsons and Cumming (4) state that the thrust can be delivered "with all the force one can muster." Barbor (5), on the other hand, cautions that one must begin "gently", for there is "no way of determining in which direction the movement should be made." Nevertheless, Campbell (6), when demonstrating chiropractic vertebral manipulation for the College of General Practice of Canada, Ontario Chapter,

used such force that a science writer (7), in describing the scene, wrote: "It seemed to amount to getting the patient off his guard and then giving his neck or other limbs a sudden tremendous jerk that made many medical onlookers involuntarily cry 'ouch!'" Maigne (8), on the other hand, discredits the use of force in these words: "It (manipulation) is a very small motion. One should avoid a large, forceful motion which cannot be measured, which is violent, painful and dangerous." Which writer is the physician to believe?

Speaking of roentgenological investigation, Barbor (9) states that he manipulates the spine without the use of x-ray studies as he finds them "useless in this field except for locating pathology", while Leemann (10) takes the view that "no type of manipulation should be carried out without x-ray examination." Parsons and Cumming agree with Leemann but state that economics may be a deterring factor.

Spinal manipulation should always be carried out toward the side that is free from pain, according to Maigne (11), but Mennell (12) states that the "manipulative manoeuvre takes the joint through the pain point to the completion of its normal range of movement"; just the opposite point of view to that expressed by Maigne.

Although this confusion divides the manipulative ranks in medicine, those who are studying and writing on this subject are in agreement on one point; namely, that many of the conditions being handled successfully by chiropractors have been erroneously diagnosed by medical practitioners. In the past both the patient and the chiropractor have been prone to accept the physician's diagnosis; however, this is no longer the case in so far as the chiropractor is concerned. We now know that many of these diagnoses are incorrect, and have resulted in medical therapy that is both improper for the condition and unnecessary. Mennell (13) lists angular pains as well as symptoms relating to the gall-bladder and appendix as examples of conditions which physicians have mis-diagnosed as coming from the viscera, when, in reality, they may be manifestations of referred pain from

(1) Parsons W. B.: *Canad. Med. Assoc. J.*, 93: —, 1965.

(2) Mennell J. McM.: *Back Pain — Diagnosis and Treatment Using Manipulative Techniques* (110), Little, Brown and Company; Boston, Toronto, 1960.

(3) Mennell J. McM.: *Ibid* (7).

(4) Parsons W. B. and Cumming J. D. A.: *Canad. Med. Assoc. J.*, 79: 103, 1958.

(5) Barbor R.: Address to Toronto Academy of Medicine, September 14, 1966.

(6) Campbell H.: Address to College of General Practice of Canada, Ontario Chapter, Vineland, September 29, 1964.

(7) Bertin Leonard: *Toronto Daily Star*, September 30, 1964.

(8) Maigne R.: *Amer. J. Phys. Med.*, 44: No. 2, 55, 1964.

(9) Barbor R.: *Ibid*.

(10) Leemann R. A.: *Schweiz. med. Wchnschr.*, 87; 1289 and 1321, 1957, and reviewed in *Canad. Med. Assoc. J.*, 78: 548, 1958.

(11) Maigne R.: *Ibid*.

(12) Mennell J. McM.: *Ibid* (109).

(13) Mennell J. McM.: *Ibid* (111).

the spine. Hoyle Campbell (14) supports this view with respect to angina. Leeman (15) lists "pseudo-angina", "pseudo-pleural pain" and "pseudo-appendicitis" and emphasizes the importance of an accurate diagnosis. Barbor (16) referred to angina, pleurisy, pleurodynia and appendicitis, as examples of conditions which have been mistakenly diagnosed by physicians, and subsequently cleared up through spinal treatment administered by a "manipulator". He further stated that these errors in medical diagnosis have contributed in large measure to the view held by some people, that manipulative therapy is effective in almost all conditions.

This brings us at last to the crux of the problem. The question before us is not concerned with the value of chiropractic vertebral manipulation; this has been clearly substantiated by royal commissions and by medical investigators. The question has two parts, and it is this: who should perform the art of vertebral manipulation and who should be responsible for the diagnosis?

The answers are clear-cut. Mennell states that it would take six months for a qualified physician to become competent in manipulative techniques and "thus, to learn this subject is a formidable undertaking for an active medical practitioner" (17). Paris (18) expresses the opinion that "the art of manipulation is not something that can be picked up in a few short minutes, hours or even days . . . Only by continual practice can one attain a high standard of manipulative skill. The beginner will find it impossible to feel relative joint movement and to obtain a specific manipulation. These skills take practice."

The Honourable Mr. Justice Gerard Lacroix (19), in his Royal Commission Report on Chiropractic and Osteopathy for the Government of Quebec, expresses his opinion following two years of study and investigation in North America and Europe. He says: "The physician who has received a complete medical training and has practised his profession regularly, cannot, in our humble opinion, himself use manipulative therapy without grave danger unless he has received long and careful, specialized training in the use of this manipulative method and treatment." Earlier in his report (20) Mr. Justice Gerard Lacroix quotes Mennell Sr., as stating that training in this type of manipulation has formed no part of the medical curriculum and that all a medical doctor knows on the subject "is that a joint which does not move freely can be made to move under an anaesthetic and the more intrepid practitioner will often carry out the manipulation without any training or knowledge to guide him. The result only too often is the abuse and not the use of the treatment, with the inevitable consequence that the treatment itself is condemned, whereas the real cause of the failure is lack of training and technique". (Emphasis from the Lacroix report, French edition).

Now, in the light of these warnings concerning the need for a long and thorough training, we are shocked at what we see happening within the medical profession to-day. Standards are being sacrificed for the sake of political expediency. Short courses of instruction varying from one hour to five days are being held for general practitioners of medicine to acquaint them with the value of chiropractic vertebral manipulation and to encourage them to experiment with this

type of treatment on their patients. One writer has even suggested that the physician should practise first on his wife or colleague before attempting it on his patients.

Such grossly inadequate presentations have been held in Ontario during the past two years by the College of General Practice of Canada, the Hamilton Academy of Medicine, the Toronto Academy of Medicine and the Division of Post-Graduate Medical Education of the University of Toronto. Following his lecture to the Toronto Academy of Medicine, Dr. Barbor replied to a question by stating that a six week course in manipulation would only provide a background upon which the practitioner would have to build from his own experience. Dr. Barbor himself was teaching a five day course at Sunnybrook Hospital at the time. In other words, physicians are being offered what is admitted to be an inadequate course and they subsequently experiment upon their patients in the hope of becoming proficient.

Medical writers are still recommending the out-dated knee-in-the-back technique in which the force applied against the patient's spine is done with the physician's knee. Mennell (21), in describing this procedure, says "In the sitting position, it is sometimes impossible to obtain patient relaxation (no wonder) and an alternative, though slightly less efficient, method of achieving the same thing is performed with the patient standing". We can visualize the physician, behind the patient, standing on his left leg like a stork, with his right leg raised high enough to place his knee on the patient's spine just below the shoulders, and then attempting to apply the correct amount of force with his knee while struggling to maintain his balance. About two years ago a patient reported to his chiropractor that he was put through such an experience in hospital with the result that both the doctor and the patient fell on the floor when the physician lost his balance. While getting back on his feet the doctor suggested, "perhaps you should see a chiropractor".

The chiropractor's superior qualifications in this field are recognized by the Lacroix Commission, as the following three quotations (22) from the newly released English edition verify:

"The preponderance of the evidence received indicates definitely that the teaching of this technique is not part of the medical curriculum and we believe that chiropractors, who have taken a long course in an accredited school, may have received instruction and training giving them a sounder preparation for the administration of this spinal therapeutic method than the physician who, in spite of his medical studies, has not been taught it."

"A doctor wishing to use manipulative treatment without having received thorough specialized training would commit as dangerous and inadmissible an act as a chiropractor who might attempt surgery without having received the appropriate medical training."

"Only specialists in the treatment of the spinal column by manipulation and trained in this manual technique should use this method, and chiropractors, in accordance with the present standards of their clinical instruction, in an accredited school, do receive an adequate training for this purpose."

(14) Campbell H.: Ibid.

(15) Leemann R. A.: Ibid.

(16) Barbor R.: Ibid.

(17) Mennell J. McM.: Ibid (110).

(18) Paris S. V.: New Zealand Med. J., 62: 320, 1963.

(19) Lacroix G. (Justice of Quebec Superior Court): Royal Commission on Chiropractic and Osteopathy, 73, Queen's Printer, Quebec City, 1965.

(20) Lacroix G.: Ibid (35).

(21) Mennell J. McM.: Ibid (120).

(22) Lacroix G.: Ibid (75) (152) (76).

It is clear from the evidence that the medical profession is presenting courses to general practitioners which, in the words of Mr. Justice Gerard Lacroix, present a "grave danger" to patients because, by the standards of the lecturers themselves, they are not adequate to qualify the listener in the art of spinal manipulation. Such a hazardous situation points up the need to modify medical practice acts to prevent the physician from experimenting on patients unwisely with chiropractic vertebral manipulation. This has already been done in the Medical Act of the State of Washington.

The earlier references to errors in medical diagnosis resulting from the physician's lack of training and lack of understanding of referred pain from the spine, strongly support the view of Mr. Justice Gerard Lacroix that chiropractors must be responsible for making their own diagnosis. He holds that any regulation requiring a medical diagnosis and referral would be unworkable. Obviously, due to the physician's lack of training in neurospinology, it would only add to the confusion which presently exists.

Short courses may be highly commendable and very

necessary from the standpoint of refreshing the general practitioners' knowledge of medical procedures*; however, one can hardly "refresh" one's knowledge of a subject one has never studied, and vertebral manipulation has formed no part of the medical curriculum (23) (24) (25). For G.P.'s to attempt a crash program composed of "refresher" courses in manipulation, varying from one hour to five days in length, amounts to nothing less than a purposeful effort to provide a low standard of manipulative therapy in a vain endeavour to compete with the success of the chiropractor who is qualified in this field.

The G.P. has a formidable task ahead of him to overcome the deficiencies in his standard of practice as outlined in the Clute (26) report. It is in this area that he should concentrate his attention rather than trying to enter the chiropractic profession by the back door, thus lowering the standard of manipulative spinal therapy and placing his patients in "grave danger", according to Lacroix (27). Chiropractic vertebral manipulation should be carried out only by those who are qualified and who understand it—the chiropractors.

* 40% of general practitioners have been found to conduct practises of unsatisfactory quality "likely to expose their patients to serious risk", while another 21% have been classified as borderline, since "these practises could not be labelled unequivocally either as satisfactory or unsatisfactory."—Clute K. F., *The General Practitioner*, page 314, University of Toronto Press, Toronto, 1963.

(23) Mennell J. McM.: Ibid (11).

(24) Lacroix G.: Ibid (75).

(25) Barbor R.: Ibid.

(26) Clute K. F.: *The General Practitioner*; University of Toronto Press, Toronto, 1963.

(27) Lacroix G.: Ibid (73).

